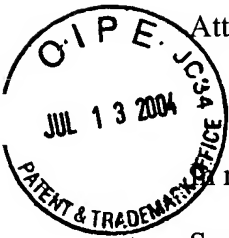


RFW
C. B. S. G.



Attorney Docket No. **IMMR-023/03US**

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application David ALEXANDER et al.

Serial No.: 10/657,079

Examiner: Unassigned

Filed: September 9, 2003

Art Unit: 3739

Confirmation No.: 9176

For: **INTERFACE DEVICE AND METHOD FOR INTERFACING INSTRUMENTS
TO MEDICAL PROCEDURE SIMULATION SYSTEMS**

U.S. Patent and Trademark Office
220 20th Street S.
Customer Window
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

INFORMATION DISCLOSURE STATEMENT TRANSMITTAL

Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08A for the above-identified patent application.

- ☒ [X] In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- ☐ [] In accordance with 37 C.F.R. §1.97(c), also enclosed is:
 - ☐ [] the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
 - ☐ [] a statement as specified in 37 C.F.R. §1.97(e).
- ☐ [] In accordance with 37 C.F.R. §1.97(d), a statement as specified in 37 C.F.R. §1.97(e) and the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) are also enclosed.
- ☐ [] Check No. ___ in the amount of \$___ for the total fee is attached.
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- ☐ [] Please charge \$___ to Deposit Account No. 50-1283 for the total fee. This paper is being submitted in duplicate.

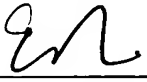
The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

Dated: July 13, 2004

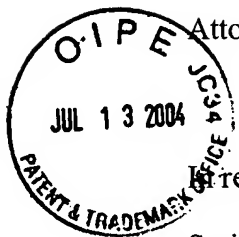
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Respectfully submitted,
COOLEY GODWARD LLP

By:



Erik B. Milch
Reg. No. 42,887



Attorney Docket No. **IMMR-023/03US**

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: 10/657,079

Examiner: Unassigned

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**INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56, Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97 and 1.98.

- ☒ Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08 (1 of 2) is provided on the enclosed CD.
- ☒ No copies of the publications listed on the attached Form PTO/SB/08A (2 of 2) are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. 09/237,969, filed January 27, 1999, to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.
- ☐ Publication(s) ___ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to ___ application serial no. and mailed on ___.
- ☐ Enclosed is a copy of a non-English publication(s) ___. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).

- ☐ Enclosed is a copy of a non-English publication(s) ___. English language publication ___ (copy enclosed) claims priority from this non-English publication.
- ☐ Enclosed is an explanation of non-English publication(s) ___ for which an English translation is not available.
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This Information Disclosure Statement is filed within any one of the following time periods:

- ☐ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- ☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;
- ☒ before the mailing date of a first office action on the merits; or
- ☐ before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.

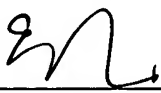
It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

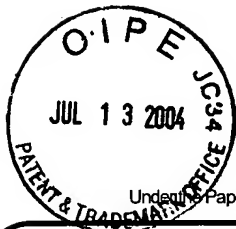
Dated: July 13, 2004

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Respectfully submitted,
COOLEY GODWARD LLP

By: _____


Erik B. Milch
Reg. No. 42,887



(1 of 2)

PTO/SB/08A (10-01)
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 3

Complete if Known

Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
Art Unit	3739
Examiner Name	Unassigned
Attorney Docket Number	IMMR023/03US

U.S. PATENT DOCUMENTS					
Examiner	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
		6,422,941	7/23/2002	Thorner et al.	
		6,160,489	12/12/2000	Perry et al.	
		6,111,577	8/29/2000	Zilles et al.	
		6,086,528	07/11/2000	Adair	
		5,817,107	10/6/1998	Schaller	
		5,690,582	11/25/1997	Ulrich et al.	
		5,575,761	11/19/1996	Hajianpour	
		5,437,607	8/1/1995	Taylor	
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		5,283,970	2/8/1994	Aigner	
		5,186,695	2/16/1993	Mangseth et al.	
		5,175,459	12/29/1992	Danial et al.	
		5,165,897	11/24/1992	Johnson	
		5,022,384	6/11/1991	Freels	
		4,885,565	12/5/1989	Embach	
		4,484,191	11/20/1984	Vavra	
		4,464,117	8/7/1984	Foerst	
		4,439,162	03/27/1984	Blaine	
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		4,262,549	4/21/1981	Schwellenbach	
		4,127,752	11/28/1978	Lowthorp	
		2,972,140	2/14/1961	Hirsch	

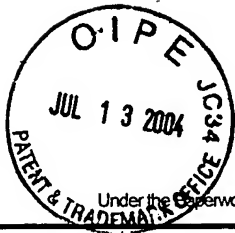
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24147		1/27/1995	Sega Corporation	
		JP	H5-192449		8/3/1993	Taito Corporation	

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¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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**INFORMATION DISCLOSURE
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Sheet **2** of **3****Complete if Known**

Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
Art Unit	3739
Examiner Name	Unassigned
Attorney Docket Number	IMMR023/03US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

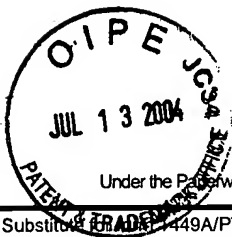
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html , 1994.
		"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **3** of **3**

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Application Number	10/657,079
Filing Date	September 9, 2003
First Named Inventor	David Alexander
Art Unit	3739
Examiner Name	Unassigned
Attorney Docket Number	IMMR023/03US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).	
		SCANNELL, "Taking a Joystick Ride," <i>Computer Currents</i> , Boston Edition, Vol. 9, No. 11, November 1994	
		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992	
		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.	
		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.	

Examiner Signature		Date Considered	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,079
		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
Sheet 1 of 12	Attorney Docket Number	IMMR023/03US	

U.S. PATENT DOCUMENTS					
Exam iner Initial s*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY
		Number	Kind Code ² (if known)		
		6,223,100		Green	04-2001
		5,995,738		DiGioia, III et al.	11-30-1999
		5,967,790		Strover et al.	10-19-1999
		5,956,040		Asano et al.	09-21-1999
		5,951,301		Yunker	09-14-1999
		5,947,743		Hasson	09-07-1999
		5,945,056		Day et al.	08-31-1999
		5,941,710		Lampotang et al.	08-24-1999
		5,909,380		Dubois et al.	06-01-1999
		5,891,131		Rajan et al.	04-06-1999
		5,890,908		Lampotang et al.	04-06-1999
		5,882,207		Lampotang et al.	03-16-1999
		5,882,206		Gillio	03-16-1999
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		5,853,292		Eggert et al.	12-29-1998
		5,828,197		Martin et al.	10-27-1998
		5,825,941		Linford et al.	10-20-1998
		5,825,308		Rosenberg	10-20-1998
		5,821,920		Rosenberg et al.	10-13-1998
		5,807,115		Hu	09-15-1998
		5,805,140		Rosenberg et al.	09-08-1998
		5,800,179		Bailey	09-01-1998
		5,800,178		Gillio	09-01-1998
		5,800,177		Gillio	09-01-1998
		5,791,908		Gillio	08-11-1998
		5,785,630		Bobick, et al.	07/28/1998
		5,769,640		Jacobus et al.	06-23-1998
		5,768,134		Swaelens et al.	06-16-1998
		5,767,839		Rosenberg	06-16-1998
		5,766,016		Sinclair et al.	06/16/1998
		5,755,577		Gillio	05-26-1998
		5,742,278		Chen et al.	04-21-1998
		5,740,802		Nafis et al.	04-21-1998
		5,739,811		Rosenberg et al.	04-14-1998
		5,734,373		Rosenberg et al.	03-31-1998
		5,731,804		Rosenberg	03-24-1998
		5,724,264		Rosenberg et al.	03-03-1998
		5,722,836		Yunker	03-03-1998

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,079
		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
Sheet 2 of 12	Attorney Docket Number	IMMR023/03US	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
		5,721,566		Rosenberg et al.	02-24-1998
		5,704,791		Gillio	01-06-1998
		5,701,140		Rosenberg et al.	11-23-1997
		5,691,898		Rosenberg et al.	11-25-1997
		5,687,259		Linford	11-11-1997
		5,682,886		Delp et al.	11-04-1997
		5,666,138		Culver	09-09-1997
		5,629,594		Jacobus et al.	05-13-1997
		5,623,582		Rosenberg	04-22-1997
		5,609,485		Bergman et al.	03-11-1997
		5,593,306		Kohnke	01-14-1997
		5,589,854		Tsai	12-31-1996
		5,576,727		Rosenberg et al.	11-19-1996
		5,559,412		Schuler	09-24-1996
		5,552,995		Sebastian	09-03-1996
		5,547,382		Yamasaki et al.	08/20/1996
		5,546,943		Gould	08-20-1996
		5,531,227		Schneider	07-02-1996
		5,518,406		Waters	05-21-1996
		5,513,992		Refait	05-07-1996
		5,510,832		Garcia	04-23-1996
		5,509,810		Schertz et al.	04-23-1996
		5,483,961		Kelly et al.	01-16-1996
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		5,482,472		Garoni et al.	01-09-1996
		5,466,213		Hogan et al.	11/14/1995
		5,459,382		Jacobus et al.	10-17-1995
		5,454,722		Holland et al.	10-03-1995
		5,451,924		Massimino et al.	09-19-1995
		5,438,529		Rosenberg et al.	08-01-1995
		5,414,337		Schuler	05-09-1995
		5,403,191		Tuason	04-04-1995
		5,391,081		Lampotang et al.	02-21-1995
		5,389,865		Jacobus et al.	02-14-1995
		5,385,474		Brindle	01-31-1995
		5,377,116		Wayne et al.	12-27-1994
		5,376,007		Zirm	12-27-1994
		5,354,202		Moncrief et al.	10-11-1994
		5,343,871		Bittman et al.	09-06-1994

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		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR023/03US
Sheet	3	of	12

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
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		5,334,027		Wherlock	08/02/1994
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		Des. 233,238		Reid et al.	10-15-1974

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FOREIGN PATENT DOCUMENTS						
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		Office ¹	Number ²	Kind Code ³ (if known)		
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		EP	0 349 086	A1	Stork Kwant B.V.	01-03-1990
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Exam iner Initial s*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/657,079
		Filing Date	September 9, 2003
		First Named Inventor	David Alexander
		Art Unit	3739
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR023/03US
Sheet	11	of	12

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
		Rabinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor area," <i>Journal of The Acoustical Society of America</i> , Vol. 82, No. 4, October 1987	
		ROSENBERG, <i>Medical Applications of Virtual Reality</i> , Virtual Reality Systems, Vol. 1, No. 3, Spring 1994, pp. 48-50	
		Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 63-70, ASME 1992	
		Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," <i>MIT Libraries Archives</i> pp. 1-131, May 1990, archived 8/14/90	
		SATAVA et al., <i>Current and Future Applications of Virtual Reality for Medicine</i> , Proceedings of IEEE, Vol. 86, No. 3, March 1998, pp. 484-489	
		SATAVA, <i>The Role of Virtual Reality in Medicine of the 21st Century</i> , Virtual Reality Systems, Vol. 1, No. 2, Fall 1993, pp. 64-67	
		SHAHIDI et al., <i>Clinical Applications of Three Dimensional Rendering of Medical Data Sets</i> , Proceedings of IEEE, Vol. 86, No. 3, March 1998, pp. 555-568	
		Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," <i>Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration</i> , Rensselaer Polytechnic Institute, Sep. 30- Oct. 1, 1992	
		SMITH, <i>Scanning the Technology</i> , Proceeding of IEEE, Vol. 86, No. 3, March 1998, pp. 474-478	
		Snow et al., "Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
		SOFERMAN et al., <i>Advanced Graphics Behind Medical Virtual Reality: Evolution of Algorithms, Hardware, and Software Interfaces</i> , Proceedings of IEEE, Vol. 86, No. 3, March 1998, pp. 531-554	

Examiner Signature		Date Considered	
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS		
	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 55-61, ASME 1992	
	Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," <i>MIT Archive</i> , pp. 1-88, February 1990, archived 8/13/90	
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	Terry et al., "Tactile Feedback In A Computer Mouse," <i>Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire</i> , March 10-11, 1988	
	Marcus, "Touch Feedback in Surgery," <i>Proceedings of Virtual Reality and Medicine The Cutting Edge</i> , Sep. 8-11, 1994	
	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00 1987 IEEE, 1987	

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